

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	7	(pore or porous) near8 polymer near8 (film or layer or medium or coating) same (hologram or holographic)	US- PGPUB; USPAT
2	BRS	L2	1	(pore or porous) near8 polymer near8 (film or layer or medium or coating) same (hologram or holographic)	EPO
3	BRS	L3	0	(pore or porous) near8 polymer near8 (film or layer or medium or coating) same (hologram or holographic)	DERWEN T
4	BRS	L4	0	(pore or porous) near8 polymer near8 (film or layer or medium or coating) same (hologram or holographic)	IBM_TD B
5	BRS	L5	86	(pore or porous) near8 (film or layer or medium or coating) same (hologram or holographic)	US- PGPUB; USPAT
6	BRS	L6	4	5 and hydroxyethyl near8 methacrylate	US- PGPUB; USPAT

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NEWS 3 JAN 16 CA/CAPLUS Company Name Thesaurus enhanced and reloaded  
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NEWS 5 JAN 16 WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data  
NEWS 6 JAN 22 CA/CAPLUS updated with revised CAS roles  
NEWS 7 JAN 22 CA/CAPLUS enhanced with patent applications from India  
NEWS 8 JAN 29 PHAR reloaded with new search and display fields  
NEWS 9 JAN 29 CAS Registry Number crossover limit increased to 300,000 in  
multiple databases  
NEWS 10 FEB 15 PATDPASPC enhanced with Drug Approval numbers  
NEWS 11 FEB 15 RUSSIAPAT enhanced with pre-1994 records  
NEWS 12 FEB 23 KOREAPAT enhanced with IPC 8 features and functionality  
NEWS 13 FEB 26 MEDLINE reloaded with enhancements  
NEWS 14 FEB 26 EMBASE enhanced with Clinical Trial Number field  
NEWS 15 FEB 26 TOXCENTER enhanced with reloaded MEDLINE  
NEWS 16 FEB 26 IFICDB/IFIPAT/IFIUDB reloaded with enhancements  
NEWS 17 FEB 26 CAS Registry Number crossover limit increased from 10,000  
to 300,000 in multiple databases  
NEWS 18 MAR 15 WPIDS/WPIX enhanced with new FRAGHITSTR display format  
NEWS 19 MAR 16 CASREACT coverage extended  
NEWS 20 MAR 20 MARPAT now updated daily  
NEWS 21 MAR 22 LWPI reloaded  
NEWS 22 MAR 30 RDISCLOSURE reloaded with enhancements  
NEWS 23 MAR 30 INPADOCDB will replace INPADOC on STN  
NEWS 24 APR 02 JICST-EPLUS removed from database clusters and STN

NEWS EXPRESS NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT  
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

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=> s (pore or porous) (8w) (film or layer or medium or coating) (p) (hologram or holographic)

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'COATING) (P) '

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'COATING) (P) '

L1 77 (PORE OR POROUS) (8W) (FILM OR LAYER OR MEDIUM OR COATING) (P)  
(HOLOGRAM OR HOLOGRAPHIC)

=> s (pore or porous) (8w) (film or layer or medium or coating) (s) (hologram or holographic)

L2 50 (PORE OR POROUS) (8W) (FILM OR LAYER OR MEDIUM OR COATING) (S)  
(HOLOGRAM OR HOLOGRAPHIC)

=> s l1 and hydroxyethyl (6w) methacrylate

L3 0 L1 AND HYDROXYETHYL (6W) METHACRYLATE

=> s l1 and hydroxyethyl (8w) methacrylate

L4 0 L1 AND HYDROXYETHYL (8W) METHACRYLATE

=> s l1 and hydroxyethyl (s) methacrylate

L5 0 L1 AND HYDROXYETHYL (S) METHACRYLATE

=> duplicate remove l2 1-50

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The file names of duplicates that can be kept are listed above.

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ENTER FILE NAMES OF DUPLICATES TO KEEP:l2

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L6 36 DUPLICATE REMOVE L2 CAPLUS (14 DUPLICATES REMOVED)

=> display-16 1-36 ibib abs

L6 ANSWER 1 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2006:606258 CAPLUS  
DOCUMENT NUMBER: 145:93113  
TITLE: Porous holographic film  
INVENTOR(S): Van Heesch, Christianus M.; Sanchez, Carlos; Escuti,  
Michael J.; Bastiaansen, Cornelis W. M.; Broer, Dirk,  
J.  
PATENT ASSIGNEE(S): Dutch Polymer Institute, Neth.  
SOURCE: PCT Int. Appl., 22 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006064431	A2	20060622	WO 2005-IB54150	20051209
WO 2006064431	A3	20060914		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

PRIORITY APPLN. INFO.: EP 2004-106543 A 20041214  
AB The present invention relates to a method for the manufacture of a holog. film. The method includes a polymerizable composition that comprises monomers with high reactivity, monomers with low reactivity and a non-reactive material. The method comprises a patterned exposure to obtain a patterned polymerization of the monomers with high reactivity and a subsequent polymerization to polymerize also monomers with low reactivity to form a solid film. The method gives a holog. film with a high refractive index modulation and a modulated porosity.

L6 ANSWER 2 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 1  
ACCESSION NUMBER: 2006:105276 CAPLUS  
DOCUMENT NUMBER: 145:345120  
TITLE: Dynamic holograms recording in fullerene-containing solid-state matrices: Porous glass slides and PMMA films  
AUTHOR(S): Pyajt, A. L.; Andreeva, O. V.; Besspalov, V. G.  
CORPORATE SOURCE: University of Washington, Seattle, WA, 98105, USA  
SOURCE: Optics Communications (2006), 259(2), 562-568  
CODEN: OPCOB8; ISSN: 0030-4018  
PUBLISHER: Elsevier B.V.  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Fullerene-containing solid-state matrixes were studied theor. and exptl. as the active material for all-optical switching devices. Dynamics hologram recording and spectral anal. were used to study temporal stability and efficiency of nonlinear response of the media. Porous glass and PMMA hosts were utilized as C60-containing matrixes. Expts. were carried out using nano- and picosecond laser radiation with wavelength 532 nm.  
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 36 INSPEC (C) 2007 IET on STN  
 ACCESSION NUMBER: 2007:9278380 INSPEC  
 TITLE: Organic solvent vapor sensing using porous photopolymer photonic bandgap structures  
 AUTHOR: Hsiao, V.K.S.; Kirkey, W.D.; Cartwright, A.N.; Prasad, P.N.; (Dept. of Electr. Eng. & Chem., State Univ. of New York, Buffalo, NY, USA), Lloyd, P.F.; Bunning, T.J.  
 SOURCE: Proceedings of the SPIE - The International Society for Optical Engineering (2005), vol.5926, no.1, p. 59260K-1-6, 13 refs.  
 CODEN: PSISDG, ISSN: 0277-786X  
 SICI: 0277-786X(2005)5926:1L.59260k:OSVS;1-N  
 Price: 0277-786X/05/\$15.00  
 Published by: SPIE-Int. Soc. Opt. Eng, USA  
 Conference: Tuning the Optical Response of Photonic Bandgap Structures II, San Diego, CA, USA, 31 July 2005  
 DOCUMENT TYPE: Conference; Conference Article; Journal  
 TREATMENT CODE: Practical; Experimental  
 COUNTRY: United States  
 LANGUAGE: English

AN 2007:9278380 INSPEC  
 AB Significant research efforts have been focused on the development of effective means for the optical detection of organic molecules using porous one-dimensional photonic bandgap (PBG) structures. To date, efforts have been focused on porous silicon microstructures, which are typically created using a controlled electrochemical etching process in a hydrofluoric acid solution. Generally, these sensors rely on changes in the optical resonance that occurs when the porous structure is filled by the analyte of interest and allows for simple and effective optical detection schemes. Here, we present a simple method for the production of polymer Bragg reflection gratings containing periodic porous layers, and we demonstrate optical detection of organic solvent vapors using these structures. To create the structures, a pre-polymer syrup containing a monomer, a photoinitiator, a co-initiator, liquid crystals (LC), and a non-reactive solvent (acetone or toluene) is sandwiched between two pieces of glass, and the periodic structure is then formed by applying an optical interference pattern generated using a simple one-beam laser setup. More importantly, we demonstrate that acetone vapor penetrates the porous structure and induces a change in the effective refractive index of these gratings that result in a shift in the reflection wavelength. This shift is pronounced, and can easily be observed by eye, or detected by optical means. We also demonstrate that this shift depends on the particular type of chemical vapor and vapor concentration, and the detection is reversible and repeatable. Finally, the addition of aminosilane to the pre-polymer syrup is shown to improve the stability of the resulting gratings, suggesting that this photopolymer fabrication technique could be used to create structures suitable for biological applications in aqueous environments

L6 ANSWER 4 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN  
 ACCESSION NUMBER: 2006(17):8690 COMPENDEX  
 TITLE: Nonlithographic fabrication of nanostructured arrays using anodic aluminum oxide films containing highly ordered arrays of pores of 10 to 50nm.  
 AUTHOR: Yin, A.J. (Division of Engineering Brown University, Providence, RI 02912, United States); Kossyrev, P.; Cloutier, S.G.; Guico, R.S.; Kim, J.H.; Xu, J.M.  
 MEETING TITLE: 208th Meeting of The Electrochemical Society.  
 MEETING LOCATION: Los Angeles, CA, United States  
 MEETING DATE: 16 Oct 2005-21 Oct 2005

SOURCE: Meeting Abstracts v MA 2005-02 2005.p 2502  
SOURCE: Meeting Abstracts v MA 2005-02 2005.p 2502  
SOURCE: 208th Meeting of The Electrochemical Society - Meeting Abstracts  
ISSN: 1091-8213  
PUBLICATION YEAR: 2005  
MEETING NUMBER: 67008  
DOCUMENT TYPE: Conference Article  
TREATMENT CODE: Experimental  
LANGUAGE: English

AN 2006(17):8690 COMPENDEX

AB The fabrication of highly ordered and highly uniform structured arrays using conventional Holographic techniques tuned to length scales less than 100 nm is quite challenging. A nonlithographic approach utilizing anodic aluminum oxide (AAO) porous films (pore diameter around 60 nm) as an evaporation or dry etching mask has proven to be successful for the fabrication of various nanostructured arrays (dots, anti-dots, and pillars) on different substrates as reported by both our group and other groups. However, nanostructures containing sub-50 nm features are often needed and their non-lithographic fabrication processes remain largely unexamined. Here, we present for the first time the fabrication of periodically structured AAO through-pore films, i.e. membranes, with diameters down to 10 nm. Membranes with a pore spacing of approximately 100 nm and pore diameters ranging from 30 to 80 nm were obtained using an oxalic acid bath. Membranes with pore diameters ranging from 10 to 25 nm and pore spacings ranging from 25 to 50 nm were obtained using a sulfuric acid bath. Effects of the anodization conditions on the properties of the AAO porous films, specifically brittleness, thickness, and wet-etch rate, were studied. By utilizing these sub-50 nm membranes as a growth stencil, we produced highly ordered nanodot, anti-dot, and nanopillar arrays of various metal and semiconductor materials on different substrates (quartz, Si, GaAs, GaN, and polymer films). By diminishing the length scale of the membrane features, effects due to quantum confinement and size can be drastically enhanced enabling broad applications of the nanostructures. The exceptional ordering and uniformity would also be beneficial in accessing nanostructure interactions, useful in radiation sensing as well as optical emission applications. Utilizing AAO porous films opens a non-lithographic growth pathway for the fabrication of highly ordered sub-50nm structures.

L6 ANSWER 5 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:219280 CAPLUS  
DOCUMENT NUMBER: 145:462636  
TITLE: Silver-halide photographic materials based on nanoporous glasses  
AUTHOR(S): Andreeva, O. V.; Obyknovennaya, I. E.; Gavriluk, E. R.; Paramonov, A. A.; Kushnarenko, A. P.  
CORPORATE SOURCE: S. I. Vavilov State Optical Institute, All-Russia Scientific Center, St. Petersburg, Russia  
SOURCE: Journal of Optical Technology (2005), 72(12), 916-922  
CODEN: JOTEE4; ISSN: 1070-9762  
PUBLISHER: Optical Society of America  
DOCUMENT TYPE: Journal; General Review  
LANGUAGE: English

AB A review. Recording media for volume holog. based on composite including porous glass and Ag halide-gelatin photog. material were designed and developed in S.I. Vavilov State Optical Institute.

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 36 INSPEC (C) 2007 IET on STN

ACCESSION NUMBER: 2005:8288720 INSPEC  
DOCUMENT NUMBER: A2005-07-8760B-013

TITLE: Interaction of underwater shock waves with fibrillar structures: an experimental study for medical application of extracorporeal shock waves

AUTHOR: Hosseini, S.H.R.; Yamashita, H.; Moosavi-Nejad, S.; Saito, T.; Takayama, K. (Inst. of Fluid Sci., Tohoku Univ., Sendai, Japan)

SOURCE: 8th International Congress on Acoustics, 2004, p. 2 pp. of CD-ROM pp., 3 refs.  
ISBN: 4 9901915 6 0  
Published by: Science Council of Japan, Japan, Japan  
Conference: 18th International Congress on Acoustics, Kyoto, Japan, 4-9 April 2004

DOCUMENT TYPE: Conference; Conference Article

TREATMENT CODE: Experimental

COUNTRY: Japan

LANGUAGE: English

AN 2005:8288720 INSPEC DN A2005-07-8760B-013

AB In order to simulate interaction of shock waves with intercellular structures, thin porous layers of cotton immersed in water were exposed to underwater shock waves. Shock waves were generated by explosion of 10 mg silver azide pellets, which were ignited by irradiation of a pulsed Nd:YAG laser beam. Peak overpressures were measured with needle hydrophones at various stand-off distances. The motion of shock waves was quantitatively visualized by using double exposure holographic interferometry. The variation of shock waves attenuation with strength of the incident shock waves was studied

L6 ANSWER 7 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:837380 CAPLUS

DOCUMENT NUMBER: 139:330129

TITLE: Holographic sensor based on a volume hologram in a porous medium

INVENTOR(S): Lowe, Christopher Robin; Davidson, Colin Alexander Bennett; Blyth, Jeffrey; Kabilan, Satyamoorthy; Marshall, Alexander James; Gonzalez, Blanca Madrigal; James, Anthony Peter

PATENT ASSIGNEE(S): Smart Holograms Limited, UK

SOURCE: PCT Int. Appl., 11 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003087789	A1	20031023	WO 2003-GB1488	20030404
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2481474	A1	20031023	CA 2003-2481474	20030404
AU 2003224254	A1	20031027	AU 2003-224254	20030404
EP 1493018	A1	20050105	EP 2003-720677	20030404
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005522695	T	20050728	JP 2003-584686	20030404
CN 1659430	A	20050824	CN 2003-812953	20030404

US 2006127898      A1      20060615      US 2006-509781      20060103  
PRIORITY APPLN. INFO.:      GB 2002-7943      A      20020405  
WO 2003-GB1488      W      20030404

AB A holog. sensor is described comprising a holog. element comprising a medium and a hologram disposed throughout the volume of the medium, wherein an optical characteristic of the hologram changes as a result of a variation of a phys. property occurring throughout the volume of the medium (e.g., hydroethyl methacrylate polymer), wherein the medium is obtainable by formation in situ in the presence of a pore-forming agent (e.g., water), wherein the agent is not present in the sensor or does not react with the analyte and the sensor.

REFERENCE COUNT:      8      THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN DUPLICATE 2

ACCESSION NUMBER:      2003(46):8590 COMPENDEX

TITLE:      Benchmark values for the Soret, thermal diffusion and diffusion coefficients of three binary organic liquid mixtures.

AUTHOR:      Platten, J.K. (General Chemistry Service University of Mons-Hainaut, B-7000 Mons, Belgium); Bou-Ali, M.M.; Costeseque, P.; Dutrieux, J.F.; Kohler, W.; Leppla, C.; Wiegand, S.; Wittko, G.

SOURCE:      Philosophical Magazine v 83 n 17-18 Jun 11 2003 2003.p 1965-1971

SOURCE:      Philosophical Magazine v 83 n 17-18 Jun 11 2003 2003.p 1965-1971

ISSN: 1478-6435

PUBLICATION YEAR:      2003

DOCUMENT TYPE:      Journal

TREATMENT CODE:      Theoretical; Experimental

LANGUAGE:      English

AN 2003(46):8590 COMPENDEX

AB With the aim of providing reliable benchmark values, we have measured the Soret, diffusion and thermal diffusion coefficients of the three binary mixtures of dodecane, isobutylbenzene and 1,2,3,4 tetrahydronaphthalene for a concentration of 50 wt% at a temperature of 25deg C. The experimental techniques applied by the five participating laboratories are transient holographic gratings, annular and parallelepipedic thermogravitational columns, and vertical parallelepipedic columns with velocity amplitude determination by laser doppler velocimetry. The systems have also been studied in a annular thermogravitational column filled with a porous medium in the gap. There is a good agreement between the different experiments with deviations of the order of a few per cent in most cases (8.5% at most). The numerical values are tabulated in the paper. 29 Refs.

L6 ANSWER 9 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:      2003:159459 CAPLUS

DOCUMENT NUMBER:      140:50710

TITLE:      Impedance measurements around grazing incidence for nonlocally reacting thin porous layers

AUTHOR(S):      Allard, Jean-Francois; Henry, Michel; Gareton, Vincent; Jansens, Gert; Lauriks, Walter

CORPORATE SOURCE:      Laboratoire d'Acoustique de l'Universite du Maine, UMR CNRS 6613, Le Mans, 72085, Fr.

SOURCE:      Journal of the Acoustical Society of America (2003), 113(3), 1210-1215

CODEN: JASMAN; ISSN: 0001-4966

PUBLISHER:      American Institute of Physics

DOCUMENT TYPE:      Journal

LANGUAGE:      English

AB For locally reacting materials with a constant surface impedance, a classical method based on the work of Chien and Soroka for measuring this



impedance in situ around grazing incidence is currently used. A generalization of this work to include thin nonlocally reacting materials with a surface impedance noticeably dependent on the angle of incidence was performed. The model by Chien and Soroka can be used, though the constant surface impedance must be replaced by the impedance at grazing incidence for the evaluation of the numerical distance. Measurements performed on a thin porous layer using this method are compared with measurements performed using the near-field acoustical holog. method. Other measurements performed on a fibrous layer are in good agreement with the predicted values of the impedance at grazing incidence.

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 10 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN

ACCESSION NUMBER: 2001(35):2183 COMPENDEX  
 TITLE: Proceedings of SPIE - The International Society for Optical Engineering.  
 MEETING TITLE: Optical Organic and Inorganic Materials.  
 MEETING ORGANIZER: SPIE  
 MEETING LOCATION: Vilnius, Lithuania  
 MEETING DATE: 16 Aug 2000-19 Aug 2000  
 SOURCE: Proceedings of SPIE - The International Society for Optical Engineering v 4415 2001. 295p  
 SOURCE: Proceedings of SPIE - The International Society for Optical Engineering v 4415 2001. 295p  
 CODEN: PSISDG ISSN: 0277-786X  
 PUBLICATION YEAR: 2001  
 MEETING NUMBER: 58345  
 DOCUMENT TYPE: Conference Proceedings  
 TREATMENT CODE: Theoretical; Experimental  
 LANGUAGE: English

AN 2001(35):2183 COMPENDEX

AB The proceedings contains 44 papers from the SPIE Conference on Optical Organic and Inorganic Materials. Topics discussed include: photoinduced anisotropy and holographic recording in amorphous chalcogenides; information quality of volume holographic memory devices; large-format automated pulsed holography camera system; influence of phosphorous sublayer on properties of the selenium and tellurium island layers; effects of localization in CdTe-based quantum well structures and structure investigation of luminescent porous GaAs layers. (Edited abstract)

L6 ANSWER 11 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:45948 CAPLUS  
 DOCUMENT NUMBER: 134:104688  
 TITLE: Silicate-based material suitable for holographic medium and optical articles and its manufacture  
 INVENTOR(S): Katz, Howard Edan  
 PATENT ASSIGNEE(S): Lucent Technologies Inc., USA  
 SOURCE: Eur. Pat. Appl., 10 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1069081	A2	20010117	EP 2000-305568	20000703
EP 1069081	A3	20020109		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6423770	B1	20020723	US 1999-353898	19990715

AU 2000071332	A	20010130	AU 2000-71332	20000703
JP 2001055508	A	20010227	JP 2000-214299	20000714
PRIORITY APPLN. INFO.:			US 1999-353898	A 19990715
			WO 2000-US40297	W 20000703

AB A silicate material, comprising a silicate domain and  $\geq 1$  substantially nonsilicate domains is described. The material is produced by mixing a templating mixture with a pre-cured resin and  $\geq 1$  resin precursors. The templating mixture comprises  $\geq 1$  surfactants,  $\geq 1$  alcs. and water. A pre-cured resin is formed by reacting  $\geq 1$  silicate resin precursors with water, and preferably in the presence of a co-solvent and a catalyst. The invention also includes a method for fabricating the silicate material, a holog. medium, an optical article, and a method for fabricating an optical article.

L6 ANSWER 12 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 2001:529631 CAPLUS  
DOCUMENT NUMBER: 135:310793  
TITLE: Transmissive holograms in a porous silver-containing volume medium, recorded with periodic femtosecond pulses  
AUTHOR(S): Andreeva, O. V.; Paramonov, A. A.; Finozhenkova, M. A.; Dement'ev, D. A.; Smolovich, A. M.; Serov, O. B.; Matveets, Yu. A.; Chekalin, S. V.; Kompanets, V. O.  
CORPORATE SOURCE: S. I. Vavilov State Optical Institute, St. Petersburg, Russia  
SOURCE: Journal of Optical Technology (Translation of Opticheskii Zhurnal) (2001), 68(7), 514-515  
CODEN: JOTEE4; ISSN: 1070-9762  
PUBLISHER: Optical Society of America  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB This paper presents the results of expts. that demonstrate that high-efficiency transmissive holograms can be obtained on porous Ag-containing volume media by recording with femtosecond laser pulses in the periodic lasing regime.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 13 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:553324 CAPLUS  
DOCUMENT NUMBER: 133:170286  
TITLE: Recording medium and process for forming medium  
INVENTOR(S): Chandross, Edwin Arthur; Dhar, Lisa; Galvin-Donoghue, Mary Ellen; Lowe-Harris, Alexander; Patel, Sanjay; Schilling, Marcia Lea; Schnoes, Melinda Lamont; Wiltzius, Pierre  
PATENT ASSIGNEE(S): Lucent Technologies Inc., USA  
SOURCE: Eur. Pat. Appl., 17 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1026546	A1	20000809	EP 1999-309584	19991130
EP 1026546	B1	20020731		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: US 1998-206441 A 19981207

AB The invention relates to holog. recording media useful with holog. storage systems, or useful as components such as optical filters or beam steerers. An improved recording medium is provided having a rigid porous matrix

containing a photoimaging system. In contrast to previous media containing porous matrixes, the invention allows readable holograms to be written in a medium without the need for solvent processing steps subsequent to irradiation. Due to the rigid nature of the matrix, polymerization and/or diffusion during formation of each individual hologram induces only a small level of Bragg detuning. Temperature fluctuations similarly induce only a small Bragg shift. Improved archival life of recorded holograms and improved fidelity of read-out, as well as improved optical elements, are thereby attained. And the avoidance of solvent processing makes the process of recording holograms far easier than in previous porous matrix-based media.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 14 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:352980 CAPLUS

DOCUMENT NUMBER: 131:108807

TITLE: Photopolymer-filled nanoporous glass as a dimensionally stable holographic recording medium

AUTHOR(S): Schnoes, Melinda G.; Dhar, Lisa; Schilling, Marcia L.; Patel, Sanjay S.; Wiltzius, Pierre

CORPORATE SOURCE: Bell Laboratories, Lucent Technologies, Murray Hill, NJ, 07974, USA

SOURCE: Optics Letters (1999), 24(10), 658-660

CODEN: OPLEDP; ISSN: 0146-9592

PUBLISHER: Optical Society of America

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The holog. recording characteristics of a photopolymer-nanoporous-glass composite are reported. An M/# of 3.2 is measured in this medium by angle multiplexing of a series of plane-wave holograms. In addition, the dimensional stability of the material is demonstrated by the negligible Bragg detuning of a set of angle-multiplexed holograms recorded with varying grating tilt angles and by the relative insensitivity of the detuning to changes in temperature

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 15 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN DUPLICATE 4

ACCESSION NUMBER: 2001(17):4370 COMPENDEX

TITLE: Subwavelength-structured antireflective surfaces on glass.

AUTHOR: Gombert, A. (Fraunhofer Inst for Solar Energy Systems ISE, Freiburg, Ger); Glaubitt, W.; Rose, K.; Dreibholz, J.; Blaesi, B.; Heinzl, A.; Sporn, D.; Doell, W.; Wittwer, V.

MEETING TITLE: Proceedings of the 1998 2nd International Conference on Coatings on Glass (ICCG).

MEETING ORGANIZER: Asahi Glass Co., Ltd.; BOC Coating Technology; Cardinal CG, Spring; LEYBOLD MATERIALS GmbH; et al.

MEETING LOCATION: Saarbrücken, Ger

MEETING DATE: 06 Sep 1998-10 Sep 1998

SOURCE: Thin Solid Films v 351 n 1-2 Aug 1999. p 73-78, Elsevier Sequoia SA, Lausanne, Switzerland

SOURCE: Thin Solid Films v 351 n 1-2 Aug 1999. p 73-78, Elsevier Sequoia SA, Lausanne, Switzerland

CODEN: THSFAP ISSN: 0040-6090

PUBLICATION YEAR: 1999

MEETING NUMBER: 56086

DOCUMENT TYPE: Journal

TREATMENT CODE: Experimental

LANGUAGE: English

AN 2001(17):4370 COMPENDEX

AB The usability of porous sol-gel coatings and periodic or stochastic subwavelength surface-relief structures for low-cost broadband antireflective (AR) surfaces on glass and on plastics was studied experimentally. Porous sol-gel coatings were produced by dip-coating on glass. Large-area periodic subwavelength surface-relief master structures were manufactured by holographic exposure of photoresist and transferred into nickel by electroforming. Stochastic surface-relief master structures were produced by a PVD process. The surface-relief structures were replicated in organically modified sol-gel materials on glass and in acrylic materials by embossing. With porous sol-gel coatings and periodic subwavelength surface-relief master structures, hemispherical reflectance values of  $<1\%$  were achieved for non-absorbing planar sheets. In the case of stochastic surface-relief structures, scatter could not be avoided. Therefore, only very low values of the specular reflectance ( $<0.5\%$ ) were achieved with this approach. (Author abstract) 13 Refs.

L6 ANSWER 16 OF 36 INSPEC (C) 2007 IET on STN

ACCESSION NUMBER: 1998:6035932 INSPEC  
DOCUMENT NUMBER: A1998-21-4240E-012; B1998-11-4350-024  
TITLE: Holographic recording in a system with annihilating centers: relaxation and suppression of transmission fluctuations of transient gratings  
AUTHOR: Kucherenko, M.G. (Dept. of Tech. Phys., Orenburg State Univ., Russia)  
SOURCE: Proceedings of the SPIE - The International Society for Optical Engineering (1998), vol.3347, p. 302-13, 12 refs.  
CODEN: PSISDG, ISSN: 0277-786X  
SICI: 0277-786X(1998)3347L:302:HRSW;1-F  
Price: 0277-786X/98/\$10.00  
Published by: SPIE-Int. Soc. Opt. Eng, USA  
Conference: Optical Information Science and Technology '97. Optical Recording Mechanisms and Media, Moscow, Russia, 27-30 Aug. 1997  
Sponsor(s): SPIE; Russian Acad. Sci.; Russian Found. Basic Res.; et al  
DOCUMENT TYPE: Conference; Conference Article; Journal  
TREATMENT CODE: Theoretical; Experimental  
COUNTRY: United States  
LANGUAGE: English

AN 1998:6035932 INSPEC DN A1998-21-4240E-012; B1998-11-4350-024

AB The holographic recording of gratings on excited triplet (T) annihilating centers in rigid mediums is proposed. The annihilation stage of the reaction  $T+T \rightarrow 0$  is visualized by measuring of the diffraction picture dynamics. It has been found theoretically that the second range diffraction maximum appears because of the nonsinusoidal grating form. The analytical expressions for the intensity of first and second range diffraction maximum are obtained. The fluctuations of the transient grating transmission,  $\tau_A$ , in a porous medium are investigated. The drastic decrease in the disperse  $\delta\tau_A$  is observed for the system with annihilating excited triplet centers. Two species of the reaction mechanism are studied: static and diffusion-accelerated annihilation. In the second case the reduction of  $\delta\tau_A$  was greater. The squeezed fluctuations effect induced by additional laser pulse is discussed

L6 ANSWER 17 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 5

ACCESSION NUMBER: 1998:397531 CAPLUS  
DOCUMENT NUMBER: 129:142491  
TITLE: X-ray diffraction and reflectometry studies of porous silicon: n-type layers and holographic gratings  
AUTHOR(S): Chamard, V.; Dolino, G.; Lerondel, G.; Setzu, S.

CORPORATE SOURCE: UMR 5588 CNRS, Laboratoire de Spectrometrie Physique,  
BP 87, Universite J. Fourier, Grenoble I, Saint Martin  
d'Heres, 38402, Fr.

SOURCE: Physica B: Condensed Matter (Amsterdam) (1998), 248,  
101-103  
CODEN: PHYBE3; ISSN: 0921-4526

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB -Ray diffraction and reflectometry allows the measurements of various  
parameters (thickness, porosity, roughness and strain) of thin layers of  
porous silicon. Measurements on n-type porous silicon layers of different  
doping give very different results: for lightly doped samples, the layer  
properties vary smoothly as a function of formation time, while for  
heavily doped samples several regimes are observed for short formation times.  
X-ray satellites have been observed in the X-ray reflexion or diffraction  
from holog. gratings.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 18 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 6

ACCESSION NUMBER: 1997:237041 CAPLUS

DOCUMENT NUMBER: 126:349638

TITLE: Sol-gel porous glass as holographic  
medium

AUTHOR(S): Sukhanov, V. I.; Kursakova, A. M.; Kuchinsky, S. A.;  
Gavrilyuk, E. R.; Zerda, T. W.

CORPORATE SOURCE: Vavilov State Optical Institute, St.-Petersburg,  
199034, Russia

SOURCE: Journal of Sol-Gel Science and Technology (1997),  
8(1/2/3), 1111-1114  
CODEN: JSGTEC; ISSN: 0928-0707

PUBLISHER: Kluwer

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Expts. on hologram recording in porous structure obtained by the sol-gel  
technol. were performed. It was shown that holograms with a diffraction  
efficiency close to 100% can be obtained with the exposure of about 0.1  
J/cm. A pronounced birefringence was observed in dry samples, but it  
diminished upon immersion in liqs. To explain this effect, a theor. model  
was developed. It was shown that even a low asymmetry in pore structure  
leads to a pronounced birefringence.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 19 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN

ACCESSION NUMBER: 2002(40):3597 COMPENDEX

TITLE: Holographic recording in the system with annihilating  
centers. Relaxation & suppression of the transmission  
fluctuations of transient gratings.

AUTHOR: Kucherenko, Michael G. (Orenburg State University  
Dept. of Technical Physics, Orenburg 460352, Russian  
Federation)

MEETING TITLE: Optical Information Science and Technology 1997:  
Optical Recording Mechanisms and Media.

MEETING ORGANIZER: SPIE

MEETING LOCATION: Moscow, Russian Federation

MEETING DATE: 27 Aug 1997-30 Aug 1997

SOURCE: Proceedings of SPIE - The International Society for  
Optical Engineering v 3347 1997.p 302-313

SOURCE: Proceedings of SPIE - The International Society for  
Optical Engineering v 3347 1997.p 302-313  
CODEN: PSISDG ISSN: 0277-786X

PUBLICATION YEAR: 1997

MEETING NUMBER: 59768  
DOCUMENT TYPE: Conference Article  
TREATMENT CODE: Theoretical; Experimental  
LANGUAGE: English

AN 2002(40):3597 COMPENDEX

AB The holographic record of gratings on excited triplet (T) annihilating centers in rigid mediums is proposed. The annihilation stage of the reaction  $T + T \rightarrow 0$  is visualized by measuring of the diffraction picture dynamics. It has been found theoretically that the second range diffraction maximum is appear in consequence of the nonsinusoidal grating form. The analitical expressions for the intensity of first and second range diffraction maximum are obtained. The fluctuations of the transient grating transmission,  $\tau_A$ , in a porous medium are investigated. The drastic decrease in the disperse  $\Delta\tau_A$  is observed for the system with annihilating excited triplet centers. Two species of the reaction mechanism are studied: static and diffusion - accelerated annihilation. In the second case the reduction of  $\Delta\tau_A$  was greater. The squeezed fluctuations effect induced by additional laser pulse is discussed. 12 Refs.

L6 ANSWER 20 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN DUPLICATE 7

ACCESSION NUMBER: 1997(21):2041 COMPENDEX

TITLE: Experiments on double-diffusion in a composite system comprised of a packed layer of spheres and an underlying fluid layer.

AUTHOR: Rastogi, S.K. (Univ of Illinois, Chicago, IL, USA); Poulikakos, D.

SOURCE: Heat and Mass Transfer/Waerme- und Stoffuebertragung v 32 n 3 Feb 1997.p 181-191

SOURCE: Heat and Mass Transfer/Waerme- und Stoffuebertragung v 32 n 3 Feb 1997.p 181-191

CODEN: HMTRF8 ISSN: 0042-9929

PUBLICATION YEAR: 1997

DOCUMENT TYPE: Journal

TREATMENT CODE: Experimental

LANGUAGE: English

AN 1997(21):2041 COMPENDEX

AB In this paper an experimental study is reported on the problem of double-diffusion in a composite system comprised of a liquid-saturated packed layer of spheres and an underlying clear (of solid matrix) fluid layer. The liquid is a mixture of water and ammonium chloride. The initial species concentration of the porous layer is linear and stable and of the clear liquid layer uniform. The system is initially isothermal and it is suddenly cooled from above. The study investigates the evolving temperature and flow fields in the system by utilizing direct temperature measurements as well as holographic interferometry visualization of the density field. The effect of the thermal Rayleigh number, the species Rayleigh number, the thermal conductivity of the beads constituting the porous matrix, and the height of the porous matrix on the evolving temperature and flow fields are determined. Comparisons of the experimental results to the predictions of an existing theoretical model define the limitations of this model and the time domain in which the model performs acceptably well. The findings of this study are relevant to double-diffusion phenomena occurring in the mixed phase and liquid regions of solidifying binary mixtures. (Author abstract) 36 Refs.

L6 ANSWER 21 OF 36 INSPEC (C) 2007 IET on STN

ACCESSION NUMBER: 1997:5586502 INSPEC

DOCUMENT NUMBER: A1997-13-4240E-005; B1997-07-4350-008

TITLE: New media based on modified silicon films for laser pulsed recording

AUTHOR: Savchuk, A.V.; Sal'kova, E.N.; Sergan, T.A.; Soskin, M.S.; (Inst. of Phys., Acad. of Sci., Kiev, Ukraine), Svechnikov, S.V.; Manoilov, E.G.; Kaganovich, E.B.

SOURCE: Proceedings of the SPIE - The International Society for Optical Engineering (Feb. 1997), vol.3055, p. 147-52, 7 refs.  
 CODEN: PSISDG, ISSN: 0277-786X  
 SICI: 0277-786X(199702)3055L:147:MBMS;1-O  
 Price: 0277-786X/97/\$10.00  
 Published by: SPIE-Int. Soc. Opt. Eng, USA  
 Conference: International Conference on Optical Storage, Imaging, and Transmission of Information, Kiev, Ukraine, 14-16 May 1996  
 Sponsor(s): SPIE

DOCUMENT TYPE: Conference; Conference Article; Journal  
 TREATMENT CODE: Experimental  
 COUNTRY: United States  
 LANGUAGE: English

AN 1997:5586502 INSPEC DN A1997-13-4240E-005; B1997-07-4350-008  
 AB The development of new irreversible storage media, based on anodically etched and oxidized porous silicon and on nanocrystalline composite silicon films prepared by reactive pulsed laser deposition, is discussed for pulsed laser recording

L6 ANSWER 22 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1997:541083 CAPLUS  
 DOCUMENT NUMBER: 127:197659  
 TITLE: Diffraction efficiency of silver-containing holograms on porous glasses in the red- and IR spectral regions  
 AUTHOR(S): Andreeva, O. V.; Korzinin, Yu. L.; Nazarov, V. N.; Gavriluk, E. R.; Kursakova, A. M.  
 CORPORATE SOURCE: VNTs "GOI im. Vavilova", St. Petersburg, Russia  
 SOURCE: Opticheskii Zhurnal (1997), 64(4), 142-146  
 CODEN: OPZHE3; ISSN: 1023-5086  
 PUBLISHER: Gosudarstvennyi Opticheskii Institut im. S. I. Vavilova  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian

AB Phase modulation was estimated of different silver-containing transmission holograms on porous glasses in red- (0.633  $\mu$ ) and IR (1.56  $\mu$ ) spectral regions. Holograms with high diffraction efficiency in the IR range were obtained in silver-containing porous glasses at high transparency of the recording medium. With change of the read-out radiation wavelength from 0.633 to 1.56  $\mu$  phase modulation of these porous holograms decreased 4-5 times, and at the same time modulation changed 1.5-2 times (as determined by refractive index). The parameters of silver-containing holograms (in contrast to porous holog. on dichromated gelatin) were not affected by filling the pores by immersion fillers with refractive index the same as diffractive index of the quartz framework.

L6 ANSWER 23 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1997:547681 CAPLUS  
 TITLE: Nonspatial filter for laser beams  
 AUTHOR(S): Ludman, J. E.; Riccobono, J.; Reinhand, N.; Korzini, Yu.; Semenova, I.; Shahriar, S. M.  
 CORPORATE SOURCE: North-East Photosciences, Hollis, USA  
 SOURCE: Kvantovaya Elektronika (Moscow) (1996), 23(12), 1123-1127  
 CODEN: KVEKA3; ISSN: 0368-7147  
 PUBLISHER: Radio i Svyaz  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian

AB A nonspatial filter was developed to perform the same task as a traditional pinhole or fiber spatial filter: the filtering of spatial frequencies in laser beams. However, the new filter operates directly in a laser beam without focusing it. This makes it possible to eliminate

many of the alignment instabilities and laser power limitations of spatial filters. The new filter is based on the Bragg selectivity of thick holograms. Two-dimensional filtering requires insertion of two different holograms in the light path. The requirements which holograms must satisfy, as well as those imposed on a holog. material to reach a bandwidth of about  $10^{-3}$ - $10^{-4}$  rad for the angular selectivity contour amounting, are considered. Standard holog. materials are unsuitable for this application because of differential shrinkage during processing, which limits the maximum attainable Bragg angular selectivity. A new 'porous' holog. material is developed which is heterogeneous: it consists of a porous silicate matrix impregnated with a photosensitive medium. Calcns. and expts. show that it is an ideal material for our task and it satisfies the necessary requirements: its thickness is several millimeters or more, it does not shrink, it makes it possible to attain the necessary refractive index modulation, etc. Potential applications of such highly selective filters are wide: they can be used to 'clean up' conventional laboratory and industrial laser beams, they can be mounted inside laser cavities for filtering of spatial frequencies and mode selection, they are promising for spectroscopy and correction of corrupted wavefronts, etc.

L6 ANSWER 24 OF 36 INSPEC (C) 2007 IET on STN  
 ACCESSION NUMBER: 1997:5479980 INSPEC  
 DOCUMENT NUMBER: A1997-05-4280C-001; B1997-03-4320M-001  
 TITLE: Nonspatial filter for laser beams  
 AUTHOR: Ludman, J.E.; Riccobono, J.; (Northeast  
 Photosciences, Hollis, NH, USA), Reinhand, N.;  
 Korzinin, Yu.; Semenova, I.; Shahriar, S.M.  
 SOURCE: Quantum Electronics (Dec. 1996), vol.26, no.12, p.  
 1093-6, 3 refs.  
 CODEN: QUELEZ, ISSN: 1063-7818  
 SICI: 1063-7818(199612)26:12L:1093:NFLB;1-F  
 Translation of: Kvantovaya Elektronika, Moskva (Dec.  
 1996), vol.23, no.12, p. 1123-7  
 CODEN: KVEKA3, ISSN: 0368-7147  
 SICI: 0368-7147(199612)23:12L:1123;1-U  
 Published by: Turpion Ltd.; Kvantovaya Elektronika, UK  
 DOCUMENT TYPE: Journal; Translation Abstracted  
 TREATMENT CODE: Theoretical; Experimental  
 COUNTRY: United Kingdom; Russian Federation  
 LANGUAGE: English  
 AN 1997:5479980 INSPEC DN A1997-05-4280C-001; B1997-03-4320M-001  
 AB A nonspatial filter was developed to perform the same task as a  
 traditional pinhole or fibre spatial filter: the filtering of spatial  
 frequencies in laser beams. However, the new filter operates directly in  
 a laser beam without focusing it. This makes it possible to eliminate  
 many of the alignment instabilities and laser power limitations of  
 spatial filters. The new filter is based on the Bragg selectivity of  
 thick holograms. Two-dimensional filtering requires insertion  
 of two different holograms in the light path. The requirements  
 which holograms must satisfy, as well as those imposed on a  
 holographic material to reach a bandwidth of about  $10^{-3}$ - $10^{-4}$  rad  
 for the angular selectivity contour amounting, are considered. Standard  
 holographic materials are unsuitable for this application because  
 of differential shrinkage during processing, which limits the maximum  
 attainable Bragg angular selectivity. A new 'porous' holographic  
 material is developed which is heterogeneous: it consists of a  
 porous silicate matrix impregnated with a photosensitive  
 medium. Calculations and experiments show that it is an ideal  
 material for our task and it satisfies the necessary requirements: its  
 thickness is several millimetres or more, it does not shrink, it makes it  
 possible to attain the necessary refractive index modulation, etc



ACCESSION NUMBER: 1996:648298 CAPLUS  
DOCUMENT NUMBER: 126:24774  
TITLE: Laser induced periodic structures in porous silicon  
AUTHOR(S): Vlad, V. I.; Petris, A.; Chumash, V. N.; Cojocaru, I.  
CORPORATE SOURCE: Department of Lasers, Institute of Atomic Physics,  
Magurele, Bucharest, 76900, Rom.  
SOURCE: Applied Surface Science (1996), 106(Proceedings of the  
Second International Conference on Photo-Excited  
Processes and Applications, 1995), 356-360  
CODEN: ASUSEE; ISSN: 0169-4332  
PUBLISHER: Elsevier  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Permanent relief holog. gratings with variable modulation depth  
have been induced in porous Si films using the  
interference of two beams obtained by a frequency-doubled Nd:YAG laser  
( $\lambda = 530$  nm) and a conventional optical setup. Consequently, the  
gratings have been confined in the porous Si film and the diffraction has  
been observed by reflection. For an angle of  $6^\circ$  between the  
interfering beams and for diffracted light at 530 and 633 nm, the  
Raman-Nath condition is fulfilled and we have observed up to 11 diffraction  
orders (large phase modulation). We assume that the periodic structures  
are obtained by thermal effects, which appear in porous Si film from very  
low laser beam fluences.

L6 ANSWER 26 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:463255 CAPLUS  
DOCUMENT NUMBER: 125:188995  
TITLE: A study of entrapped enzyme stability and substrate  
diffusion in a monoglyceride-based cubic liquid  
crystalline phase  
AUTHOR(S): Nylander, Tommy; Mattisson, Charlotte; Razumas,  
Valdemaras; Mieziš, Yvonne; Hakansson, Bjoern  
CORPORATE SOURCE: Department of Food Technology, University of Lund,  
P.O. Box 124, Lund, S-22100, Swed.  
SOURCE: Colloids and Surfaces, A: Physicochemical and  
Engineering Aspects (1996), 114(Collection of Papers  
presented at the Workshop "Bubble and Drop 95", 1995),  
311-320  
CODEN: CPEAEH; ISSN: 0927-7757  
PUBLISHER: Elsevier  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Our recent results have shown that enzymes with mol. wts. of up to 590 kDa  
can be entrapped in cubic liquid crystalline phases in lipid/aqueous systems.  
In the  
present study, both pure monoolein and monoolein/phosphatidylcholine  
mixts. were used for the preparation of the cubic phases. Electrochem.  
measurements of the enzyme activity show that the entrapment in the cubic  
phase is liable to stabilize the enzyme. The interactions between protein  
mols. and a periodically curved lipid bilayer in these systems still  
remain to be elucidated. However, our data show that the composition of the  
lipid might influence the stability of the enzyme; i.e., the introduction  
of the zwitterionic phosphatidylcholine leads to an increase in the  
long-term stability of glucose oxidase. This can probably be assigned  
both to the differences in the polar interface of the lipid bilayer and  
the changes in structure of the cubic phase. The properties of biosensors  
constructed from cubic phases containing glucose oxidase and ceruloplasmin  
were compared. Both enzymes have about the same mol. weight, but different  
electrochem. reactions were used for monitoring the enzyme activity. We  
have also studied the diffusion of a substrate mol., glucose, in the cubic  
phase by means of holog. laser interferometry, NMR, and chronoamperometry  
to obtain more information on the cubic phase as a support for enzyme  
immobilization.

L6 ANSWER 27 OF 36 INSPEC (C) 2007 IET on STN  
 ACCESSION NUMBER: 1996:5147184 INSPEC  
 DOCUMENT NUMBER: A1996-03-4240E-013; B1996-02-4350-031  
 TITLE: 3-D transmission gratings in silver-containing porous glass holographic material  
 AUTHOR: Andreyeva, O.V.; Kursakova, A.M.; Korzinin, Yu.L.; Nazarov, V.N.; Gavriluk, E.R. (Vavilov (S.I.) State Opt. Inst., St. Petersburg, Russia)  
 SOURCE: Proceedings of the SPIE - The International Society for Optical Engineering (1995), vol.2405, p. 111-19, 5 refs.  
 CODEN: PSISDG, ISSN: 0277-786X  
 SICI: 0277-786X(1995)2405L:111:TGSC;1-6  
 Price: 0 8194 1752 1/95/\$6.00  
 Published by: SPIE-Int. Soc. Opt. Eng, USA  
 Conference: Holographic Materials, San Jose, CA, USA, 8 Feb. 1995  
 Sponsor(s): SPIE  
 DOCUMENT TYPE: Conference; Conference Article; Journal  
 TREATMENT CODE: Experimental  
 COUNTRY: United States  
 LANGUAGE: English  
 AN 1996:5147184 INSPEC DN A1996-03-4240E-013; B1996-02-4350-031  
 AB The studies have been performed on new volume (about 1 mm thick) recording medium based on porous glasses and light-sensitive silver compounds. It was shown that the materials of the sort make it possible to create holograms with high values of phase modulation not only in visible, but also in near infrared spectral regions. The essential feature of the media is the fact that the parameters of the developed holograms are independent of impregnation of free volume with immersion filler having the refractive index equal to that of the framework. That makes it possible to obtain high efficiency holograms with low level of light scattering and high optical quality of reconstructed wavefront

L6 ANSWER 28 OF 36 INSPEC (C) 2007 IET on STN  
 ACCESSION NUMBER: 1995:4844992 INSPEC  
 DOCUMENT NUMBER: A1995-02-4270C-004; B1995-02-4110-003  
 TITLE: Porous glass as a storage medium  
 AUTHOR: Sukhanov, V.I. (All-Russia Res. Center, Vavilov (S.I.) State Opt. Inst., St. Petersburg, Russia)  
 SOURCE: Optica Applicata (1994), vol.24, no.1-2, p. 13-26, 23 refs.  
 CODEN: OPAPBZ, ISSN: 0078-5466  
 Conference: Seminar on Alkali Silicate Glasses PGL'94, Karpacz, Poland, 6-10 June 1994  
 DOCUMENT TYPE: Conference; Conference Article; Journal  
 TREATMENT CODE: Theoretical; Experimental  
 COUNTRY: Poland  
 LANGUAGE: English  
 AN 1995:4844992 INSPEC DN A1995-02-4270C-004; B1995-02-4110-003  
 AB The possibility of porous glass usage as a base of light-sensitive capillary composites for holography is discussed. The principles of hologram formation in such a heterogeneous medium are examined. Predicted formation mechanisms of the holographic structure are realized experimentally. It is shown that porous glass not only determine the composites structure, but can be used as one of the components of light-sensitive system

L6 ANSWER 29 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1994:560022 CAPLUS  
 DOCUMENT NUMBER: 121:160022  
 TITLE: Cooling and freezing behaviors of an aqueous sodium chloride solution through a micro porous film

AUTHOR(S): Narumi, Akira; Kashiwagi, Takao; Nakane, Ichirou  
CORPORATE SOURCE: Dep. Mech. Eng., Kanagawa Inst. Technol., Atsugi,  
243-02, Japan  
SOURCE: Imaging Transp. Processes, [Proc. Int. Semin.] (1993),  
Meeting Date 1992, 401-13. Editor(s): Sideman,  
Samuel; Hijikata, Kunio. Begell House: New York, N.  
Y.

CODEN: 60KCAW

DOCUMENT TYPE: Conference

LANGUAGE: English

AB The cooling and freezing processes of an aqueous NaCl solution through a micro porous film were visualized and measured by using the real time laser holog. interferometry, in order to acquire basic knowledge on freezing of food. These processes were discussed by comparing expts. using water and aqueous NaCl solution, partition of copper or

a

permeable film and no partition. In the case of a NaCl solution, there is no significant difference in the cooling process due to the different partitions. In the freezing process, NaCl rejected by solidification in the 1st cell goes into the 2nd cell, passing through the micro porous film with the progress of solidification. Thus, it is necessary to consider mass transfer through the porous film, after solidification, in analyzing freezing of food. In the case of water, water itself passes through the micro porous film. However, there is little difference in the heat transfer characteristics between the results using a film and those using copper plate where water can not pass.

L6 ANSWER 30 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:418446 CAPLUS

DOCUMENT NUMBER: 115:18446

TITLE: Analysis of Focar-type silver halide heterogeneous media

AUTHOR(S): Andreeva, O. V.

CORPORATE SOURCE: State Opt. Inst., Leningrad, USSR

SOURCE: Proceedings of SPIE-The International Society for  
Optical Engineering (1991), 1238(Three-Dimens.  
Hologr.: Sci., Cult., Educ.), 231-4  
CODEN: PSISDG; ISSN: 0277-786X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An anal. of Focar-S, a new material for 3-D holograms recording, was carried out. The new material comprises a heterogeneous medium based on porous glass and Ag halide as a light sensitive substratum. Characteristics of obtained holograms for both non-developed and developed samples are discussed.

L6 ANSWER 31 OF 36 INSPEC (C) 2007 IET on STN

ACCESSION NUMBER: 1991:3957091 INSPEC

DOCUMENT NUMBER: A1991-108469

TITLE: Modeling, computations and measurement techniques  
[heat transfer]

SOURCE: Heat Transfer 1990. Proceedings of the Ninth  
International Heat Transfer Conference, 1990, p.  
123-264 vol.3 of 7 vol. (xl+474+594+479+459+528+489+xx  
xvi+228) pp., 0 refs.  
Editor(s): Hetsroni, G.  
ISBN: 0 89116 909 1

Published by: Hemisphere, New York, NY, USA

Conference: Heat Transfer 1990. Proceedings of the  
Ninth International Heat Transfer Conference,  
Jerusalem, Israel, 19-24 Aug. 1990

DOCUMENT TYPE: Conference; Conference Article

TREATMENT CODE: Practical; Experimental

COUNTRY: United States

LANGUAGE: English  
AN 1991:3957091 INSPEC DN A1991-108469  
AB The following topics were dealt with: boundary vorticity; boiling water reactor accidents; linear thermal problems; gas analysis; Seebeck effect; radiometry; heat partition; surface temperatures; boundary conditions; porous media; double diffusive convection; spray droplets; holographic visualisation; digital image processing; thermal conductivity; hot strip method; thermocouple plug assembly; local wall shear stress; optical fibre refractometer; heat exchanger performance evaluation; fouling monitoring; expert systems; computational fluid dynamics; digital simulation; spectral element-RNG simulation; heat flux meters; thermal conductivity probes

L6 ANSWER 32 OF 36 INSPEC (C) 2007 IET on STN  
ACCESSION NUMBER: 1991:3934110 INSPEC  
DOCUMENT NUMBER: A1991-090804; B1991-050856  
TITLE: Formation of the holographic structure of a holographic mirror by post-exposure treatment of a dichromated gelatin layer  
AUTHOR: Kuzilin, Yu.E.; Melnichenko, Yu.B.; Shilov, V.V.  
SOURCE: Optics and Spectroscopy (July 1990), vol.69, no.1, p. 106-8, 20 refs.  
CODEN: OPSUA3, ISSN: 0030-400X  
Price: 0030-400X/90/070106-03\$05.00  
Translation of: Optika i Spektroskopiya (July 1990), vol.69, no.1, p. 174-7  
CODEN: OSFMA3, ISSN: 0030-4034  
DOCUMENT TYPE: Journal; Translation Abstracted  
TREATMENT CODE: Experimental  
COUNTRY: United States; USSR  
LANGUAGE: English

AN 1991:3934110 INSPEC DN A1991-090804; B1991-050856  
AB Spectrophotometry and molecular light scattering techniques are employed to investigate the formation of the holographic structure of a holographic mirror by post-exposure treatment of an ammonium-dichromate-sensitized nonpretanned gelatin layer. It is demonstrated that the induced phase contrast of the holographic structure results from the phase separation of the water-gelatin-isopropyl-alcohol system into two phases, one of which is solvent-enriched, while the other is polymer-enriched, as well as polymer vitrification and the resulting cessation of the development of phases in the system and pore formation due to solvent extraction from the recording medium. The pore distribution and size is determined by the density of the initial cross-links as well as those resulting from photo- and dark reactions in the bulk of the recording medium

L6 ANSWER 33 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN DUPLICATE 9  
ACCESSION NUMBER: 1989(10):100048 COMPENDEX  
DOCUMENT NUMBER: 8910103172  
TITLE: Mechanism of hologram formation in DMP-128 photopolymer.  
AUTHOR: Ingwall, Richard T. (Polaroid Corp, Cambridge, MA, USA); Troll, Mark  
SOURCE: Opt Eng v 28 n 6 Jun 1989 p 586-591  
SOURCE: Opt Eng v 28 n 6 Jun 1989 p 586-591  
CODEN: OPEGAR ISSN: 0091-3286  
PUBLICATION YEAR: 1989  
DOCUMENT TYPE: Journal  
TREATMENT CODE: Application; Theoretical; Experimental  
LANGUAGE: English  
AN 1989(10):100048 COMPENDEX DN 8910103172  
AB Electron micrographs of volume phase holograms recorded in DMP-128 reveal microstructure that is responsible for holographic

activity. Solid and porous layers alternate with a spacing commensurate with the recorded fringe pattern. The difference in material density between the solid and porous regions accounts for the refractive index modulation and therefore the holographic activity of DMP-128 holograms. The pores of the holograms are interconnected and can be filled with many low and moderate viscosity liquids. Diffraction efficiency, bandwidth, and wavelength of maximum efficiency are profoundly and predictably affected by filling the hologram pores. (Author abstract) 12 Refs.

L6 ANSWER 34 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN

ACCESSION NUMBER: 1986(8):116783 COMPENDEX

DOCUMENT NUMBER: 860873827

; \*8669905

TITLE: GRAVITATIONAL EFFECTS DURING DIFFUSIONAL MASS TRANSFER AT THE PORE-SCALE.

AUTHOR: Mahers, Eric G. (Imperial Coll, London, Engl); Dawe, Richard A.

SOURCE: SPE Form Eval v 1 n 2 Apr 1986 SPE 12679, p 184-192

SOURCE: SPE Form Eval v 1 n 2 Apr 1986 SPE 12679, p 184-192

CODEN: SFEVEG

PUBLICATION YEAR: 1986

DOCUMENT TYPE: Journal

TREATMENT CODE: Application; Experimental

LANGUAGE: English

AN 1986(8):116783 COMPENDEX DN 860873827; \*8669905

AB A novel approach to study and to quantify diffusional mass transfer at the pore scale is by holographic interferometry. This is a passive technique as information is obtained from what is occurring within the pores while the fluids in the pores are not physically disturbed. The porous media used were transparent micromodels with carefully designed two-dimensional (2D) network patterns where fluids could be readily trapped. This work is pertinent to enhanced oil recovery. This paper gives examples for both miscible and partially miscible systems and demonstrates that the alignment of the pores with respect to the gravitational field is a significant factor in the mass transfer. The correct modeling of the pore-scale mass-transfer phenomena is essential for proper scaling to reservoir EOR processes. (Edited author abstract) 15 refs.

L6 ANSWER 35 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN

ACCESSION NUMBER: 1985(8):114118 COMPENDEX

TITLE: OPTICS OF AIRCRAFT SHEAR FLOWS.

AUTHOR: Craig, J.E. (Spectron Development Lab Inc, Costa Mesa, CA, USA); Rose, W.C.

MEETING TITLE: AIAA Shear Flow Control Conference.

MEETING ORGANIZER: AIAA, New York, NY, USA

MEETING LOCATION: Boulder, CO, USA

MEETING DATE: 12 Mar 1985-14 Mar 1985

SOURCE: AIAA Paper Publ by AIAA, New York, NY, USA

AIAA-85-0557, 10p

SOURCE: AIAA Paper Publ by AIAA, New York, NY, USA

AIAA-85-0557, 10p

CODEN: AAPRAQ ISSN: 0146-3705

PUBLICATION YEAR: 1985

MEETING NUMBER: 06585

DOCUMENT TYPE: Conference Article

LANGUAGE: English

AN 1985(8):114118 COMPENDEX

AB This paper examines the aero-optics of laser propagation through aircraft turbulent boundary layers and porous fence generated shear layers. Using optical instrumentation with fast time resolution through a finite aperture, the optical performance was determined and compared with the infinite aperture aerodynamically derived performance. A

custom Q-switched Nd:YAG doubled pulsed laser, and a holographic camera recorded the random flow field in a double pass, double pulse mode. Aerodynamic parameters were measured using hot film anemometer probes and a five-hole pressure probe. 4 refs.

L6 ANSWER 36 OF 36 INSPEC (C) 2007 IET on STN  
ACCESSION NUMBER: 1982:1857853 INSPEC  
DOCUMENT NUMBER: A1982-055677  
TITLE: Heat transfer in vertical gaps  
AUTHOR: Koster, J.N. (Inst. fur Reaktorbauelemente,  
Kernforschungszentrum Karlsruhe, Karlsruhe, West  
Germany)  
SOURCE: International Journal of Heat and Mass Transfer (March  
1982), vol.25, no.3, p. 426-8, 9 refs.  
CODEN: IJHMAK, ISSN: 0017-9310  
DOCUMENT TYPE: Journal  
TREATMENT CODE: Experimental  
COUNTRY: United Kingdom  
LANGUAGE: English  
AN 1982:1857853 INSPEC DN A1982-055677  
AB Interferometric studies of hydrodynamic stability in slender vertical  
gaps (Hele-Shaw boxes) heated from below were performed. Using real time  
holographic interferometry the heat transfer at the horizontal  
boundaries can be determined. The advantage of holographic  
compared to other interferometers is that inhomogeneous optical  
properties of the transparent test box walls do not influence the  
interferograms. Fluid flow in Hele-Shaw boxes is often used to simulate  
flow through porous media. In this context this  
investigation is of interest to understand transport phenomena in  
groundwater and oil flow

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